

Ruffed Grouse Drumming Survey

2006

By Brian Dhuey

Abstract

Statewide ruffed grouse population indices increased 27% between 2005 and 2006, based on the number of drumming grouse heard during roadside surveys. Changes in indices to breeding grouse populations varied by region, but the statewide mean number of drums/stop did not change significantly ($P = 0.17$) from 2005 to 2006. Drummer densities on the Sandhill Wildlife Area in Wood County increased 3%. Stone Lake Experimental Area in Oneida County was surveyed in 2006, but not in 2005, so no comparison will be made.

Methods

Statewide

Counts of drumming grouse heard along roadsides were conducted on 97 transects throughout the state in 2006. Sixteen statewide transects were considered to be zero and not run in 2006. This roadside survey has been conducted annually since 1964 by DNR wildlife managers, wildlife technicians, foresters, law enforcement personnel, USFS staff, and Ruffed Grouse Society volunteers to determine grouse population trends throughout Wisconsin. A new 10-stop survey on 117 randomly located transects was initiated in 1994 and continued in 2006. This year marked the thirteenth year that the "new" ruffed grouse surveys were run. As per the change over plan, no "old" drumming routes were run since 1996. Also, "new" routes which had counts of zero for the first three years were not to be run for three years. After that three year period, they were to be run again to confirm that they indeed were still zero. Most of these "zero" routes were run again in 2000 and in 2004.

Procedures for the "new" routes were similar to the earlier survey protocols except for one count instead of two and 10 stops instead of 15. Survey data were entered into the DNR UNIX computer system and summarized using the Statistical Analysis System (SAS).

Research Census Areas

DNR research personnel have conducted a census of drummers on Sandhill Wildlife Area and Stone Lake Area since 1968. This survey has provided comparative statistics on population trends and an estimate of drummer density. Searches for males were conducted during favorable weather between 1 April and 10 May. The census on the Sandhill Wildlife Area encompassed 2,020 acres of grouse habitat in the area open to hunting and 1,300 acres within the unhunted portion of the area. The census on the Stone Lake Experimental Area in Oneida County encompassed 3,310 acres of grouse habitat. Due to personnel shortages, the Stone Lake Area was not surveyed in 2005. DNR personnel and volunteers were again able to survey the Stone Lake Area in 2006.

Results

Statewide

Responses were received from wildlife managers, wildlife technicians, and other cooperators that helped conduct the survey on 97 survey transects in 2006. Sixteen transects were considered to be zero and not run in 2006. The total number of routes used in estimating a statewide ruffed grouse drumming index was 113. This is one less than the total number of transects (114) used in the spring of 2005.

Statewide, ruffed grouse population indices increased in Wisconsin between 2005 and 2006 (Table 1). This is the first increase in the ruffed grouse index in the last 7 years. Survey indices show an increase in drumming grouse in two of the four regions of the state (Fig. 1). Statewide, overall density increases were not significant ($P=0.17$) during 2005-2006. Transects completed in both 2005 and 2006 were compared to detect population changes. Transects were considered to have changed from last year if the change was greater than two drums per transect. The number of transects with increased drumming outnumbered by 39 to 22 those that showed decreases, with 52 transects unchanged.

Brood production in the summer of 2005 was higher than in 2004 and set the stage for an increase in breeding grouse. With the 2 major grouse regions of the state showing increases in breeding grouse, it would appear that Wisconsin is coming out of the bottom of the current grouse cycle.

Survey conditions for 2006 were not as good as those in 2005. Surveyors rated the overall survey conditions as "excellent" on 37% of the transects run, while 47% rated the overall conditions as "excellent" in 2005. Surveyors rated the conditions as "Fair", the lowest available weather condition rating, 12% of the time in 2006 compared to 10% in 2005. The percent of observers rating the conditions as "excellent" was well below the highest level of 68% recorded in 1998. Survey conditions do influence drumming activity and may cause grouse numbers to be over or under estimated.

Research Census Areas

Grouse numbers on the Sandhill Wildlife Area were up slightly in 2006 (Table 2). Sandhill Wildlife Area increased 3% (30 vs. 29 birds in 2005) while the central region of the state showed a decrease of 21% in drumming activity. The unhunted portion of the wildlife area (1,300 acres) decreased by 7 birds in 2006 (8 vs. 15 in 2005). The hunted portion of the wildlife area (2,020 acres) had an increase in breeding grouse, with 22 birds counted in 2006, up from 14 in 2005. The survey technique used to measure grouse densities on this area is different than that used on the statewide survey. Any comparison of these results to statewide totals should be done cautiously. The Stone Lake census area was surveyed in 2006. Sixty-five birds were counted this on this spring's survey, but due to no data for 2005, no comparison will be made.

Table 1. *Ruffed Grouse drumming results 2005-2006, drums per stop (routes run), % change, and number of routes with a change of greater than 2 drums per route from 2005 levels.*

Region	Drums/Stop 2005 (routes run)	Drums/Stop 2006 (routes run)	% Change	# of Decreasing Routes	# of Increasing Routes	# of Routes with No Change
Central	0.96 (27)	0.74 (27)	-23%	12	6	9
Northern	0.80 (43)	1.26 (43)	+58%	5	26	12
Southeast	0.09 (28)	0.08 (26)	-11%	3	1	22
Southwest	0.36 (16)	0.55 (17)	+53%	2	6	9
Statewide	0.60 (114)	0.76 (113)	+27%	22	39	52

Table 2. *Drummer densities on the DNR research census areas, 2005-2006.*

Area	No. of Drummers (No./100A)	
	2005	2006
Sandhill Hunted (2,020 Acres)	14 (0.7)	22 (1.1)
Sandhill Unhunted (1,300 Acres)	15 (1.2)	8 (0.6)
Stone Lake Exp. Area (3,310 Acres)	No Data	65 (2.0)

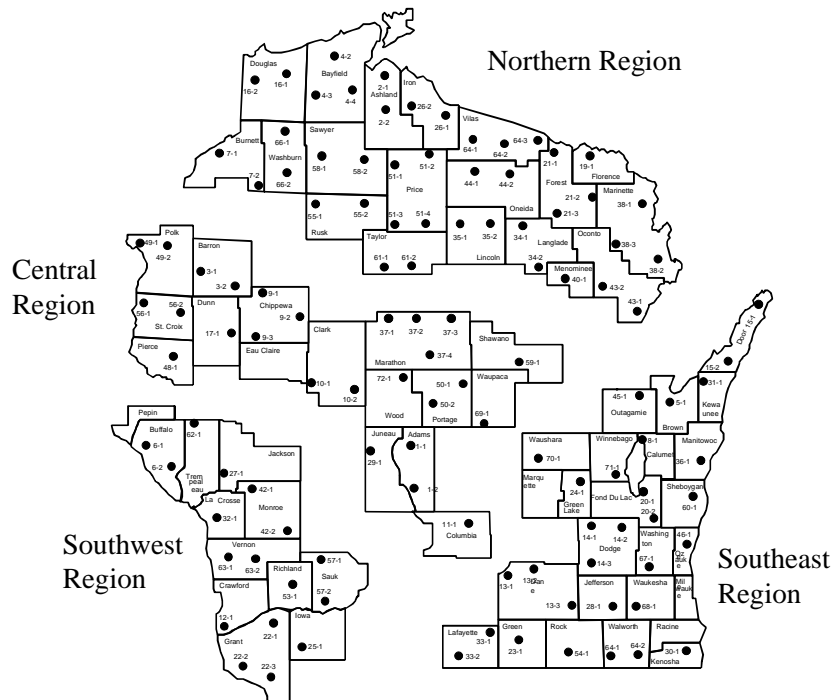


Figure 1. *Ruffed grouse drumming regions with transect starting points.*

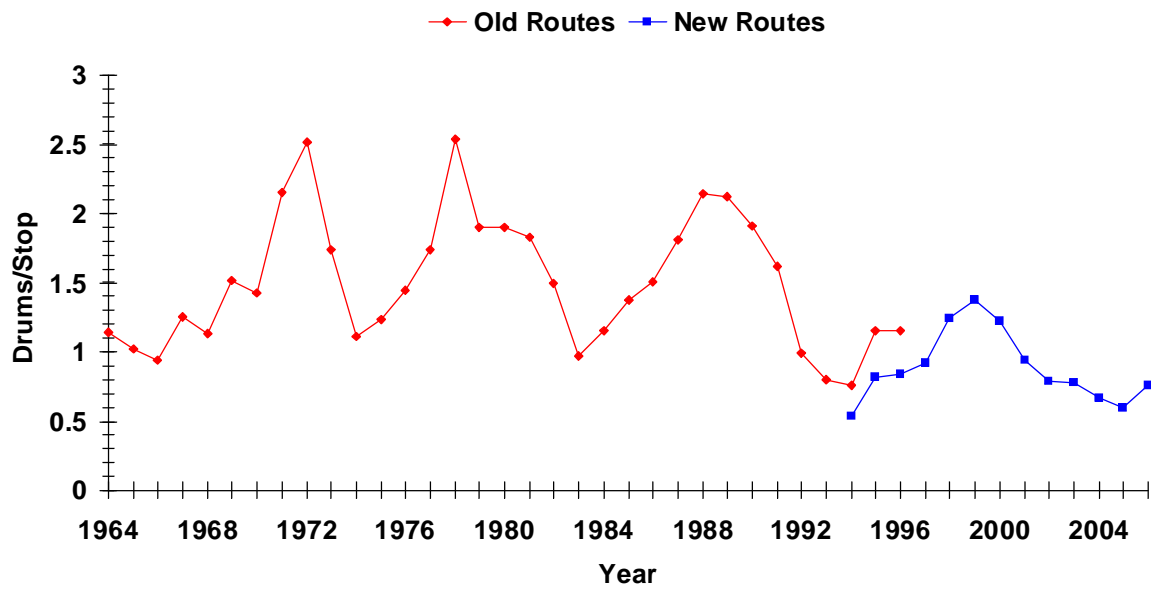


Figure 2. Mean number of drums/stop on ruffed grouse drumming routes, 1964-2006.